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Analysis of Personal Characteristics of Oncologic Patients at the Stage of Psychological Adjustment

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Abstract: The study describes experimental psychognostic study of personal characteristics of thyroid cancer patients after curative antineoplastic therapy. The empiric framework of the study relies on the results of diagnosis of 175 persons. From among them the treatment group 120 persons ill with thyroid carcinoma after curative antineoplastic therapy, during the long-term postoperative period (2-4 years) without disease recurrence during the study period. And the control group 55 donors registered with the Kazan municipal blood transfusion station as those without chronic diseases. The personals status of the thyroid carcinoma patients was investigated with the use of the psychognostic questionnaires: Mini-Mult, one of the most famous abridged versions MMPI (Minnesota Multiphasic Personality Inventory); Spielberg's anxiety scale (State-Trait Anxiety Inventory (STAI)): WAM (Well-being, Activity, Mood). The relevance of the study performed consists in determination of the long-term personal characteristics of thyroid carcinoma patients after curative antineoplastic therapy under conditions of the mindset training with the use of the method of 'progressive muscular relaxation after Jacobson' as well as other psychotherapeutic methods for improvement of the psychological status of oncologic patients. The psychotherapeutic measures were aimed at optimization of the mental state: relieving the psychic and muscular strain caused by stress: reducing the state and trait anxiety. The results of the long-term psychological diagnosis of the thyroid carcinoma patients after curative antineoplastic therapy show that the detected differences between the personal traits (scales for hypochondria, depression, hysteria, psychastenia, schizogony of the Mini-Mult test) and indicators of correlation thereof in the group of patients cured from the thyroid carcinoma and in the control group are significant ($p<0.0001$). The use of the developed program of psychological adjustment including the Method of Progressive Muscular Relaxation (MPMR: Jacobson) has significantly ($p<0.05$) improved the mental state (the index 'well-being' of the CAH-test, 'the state anxiety' by the STAI scale), the significant changes in the personality profile of the patients that have completed the training (the indexes of the scale for hypochondria, depression, hysteria, psychastenia were reduced, the indexes of the scale for optimism or hypomania of the Mini-Mult test were increased).

Key words: Patients with thyroid carcinoma, psychological status, hypochondria, anxiety, muscular relaxation

INTRODUCTION

As many researchers note intense emotions, stress cause oncologic diseases. On the other hand, an oncological disease itself is a strongest stress factor (Fedorenko, 2014). Besides in patients with the thyroid carcinoma due to the loss of a part or complete thyroid body hormone imbalance is developed which affects their psychological status since dysregulation of one of the body systems necessarily affects functioning of other systems (Fedorenko and Biktimirova, 2014). Psychological training as one of the stages of psychological support promotes to more efficient performance of the therapy, removal of the stress load, further recovery of patients to the active, full life, reduction of the disease recurrence risk. The social-psychological rehabilitation is essential, since the curative therapy delivered to an oncologic patient is not the guarantee of the complete recovery.

Facing a new situation of interaction with doctors, patients, new dispositions of interaction with his relatives, an oncologic patient actually becomes the subject of a new cultural situation, new rules and standards. In this case, he faces the psychological tasks of transformation of his inherent subjective resources. The methodology of psychology of a human as subject of culture is described in the studies of Bayanova and Vygotsky (2011) and Bayanova (2013).

A patient may transform his own life activity into the subject of the practical transformation, treat himself, perform and creatively transform his activity. A psychological training as one of the stages of psychological support promotes to more efficient

performance of the therapy, removal of the stress load, further recovery of patients to the active, full life, reduction of the disease recurrence risk, psychological rehabilitation against severity of the deconditioning factor (Abitov, 2015).

In our teamwork, we focused on delivery of psychological aid. The psychological training was arranged in such a manner that neither the process of it, not the results could harm the participants: their health, condition or social status. The activities were performed only after notifying the patients of the purpose of such activities, the techniques used the methods of utilization of the information obtained and obtaining the patients' consent to participate. We also oriented towards formation of skills of personal self-development in general.

The purpose of performance of the psychological training: to teach the patients with thyroid carcinoma after the curative therapy based on the method of 'progressive muscular relaxation after Jacobson' to relieve the psychic and muscular strain caused by stress, reduce the state and trait anxiety.

The training program included: acquisition of the relaxation skills; art psychotherapy; analysis of dreams, understanding of images of the own unconscious; role-playing games, fulfillment and mobilization of the personal resources.

For the purposes of normalization of the emotional state, validation, overcoming fears, psychological correction of the stress and critical conditions for understanding of how the unconscious affects the adaptability we used the 'Method of the resonant co-creation' (Sibgatullina, 2010).

MATERIALS AND METHODS

We have organized and performed the experimental-diagnostic analysis of the personal characteristics of patients with the thyroid carcinoma in conditions of the psychological adjustment after curative antineoplastic therapy at the Republican oncologic dispensary of the Republic of Tatarstan.

The empiric framework of the study relies on the results of diagnosis of 175 persons. From among them the treatment group 120 persons ill with thyroid carcinoma after curative antineoplastic therapy, during the long-term postoperative period (2-4 years) without disease recurrence during the study period. And the control group 55 donors registered with the Kazan Municipal Blood Transfusion Station as those without chronic diseases. The following was used as the diagnostic tools: CAH (Well-being, Activity, Mood) the method of assessment of the psycho physiological state of healthy and sick persons of emotional response to psycho-therapeutic action, Mini-Mult one of the most famous abridged versions of MMPI (Minnesota Multiphasic Personality Inventory). The method is designed for diagnosis of personal peculiarities as well as possible psychopathologic disorders the questionnaire created by Starke R. Hathaway, John Charnley McKinley; the anxiety scale by Spielberger (State-Trait Anxiety Inventory (STAI)) is an informative method of self-estimation as the anxiety level at the present moment (state reactivity as a state (A-state)) and trait reactivity (A-trait) (as a stable response of a person). The test was designed by Charles Spielberger.

The quantitative processing of the data obtained was performed with the use of the applied package Microsoft Excel and the STATISTICA 7.0 software. All the test subjects were informed of the research objectives and provided their written consent.

RESULTS AND DISCUSSION

Peculiar personal characteristics of patients with thyroid carcinoma: At the first stage of the study, the comparative analysis of mean values of indicators being investigated was performed.

The values of indicators of psychic state obtained based on the results of the CAH test in the control and treatment groups are presented in Table 1.

As it follows from Table 1 the figures of well-being and mood in the control and treatment groups differ significantly ($r = 0.32$; $r = 0.09$ at $p \leq 0.05$). In patients, with thyroid carcinoma these figures are significantly lower as compared to those in healthy persons. This may be explained by the negative subjective attitude of patients to their disease. Despite the fact that the medical rehabilitation was successfully completed the patients show low mood and persisting disturbance of the general sense of well-being. The activity in both groups does not differ significantly.

The figures of the state and trait anxiety according to the STAI-scale detected in the control and treatment groups are presented in Table 2.

Table 1: Indicators of psychic state

Groups	Well-being	Activity	Mood
Control	57.6±1.4	47.7±2.1	56.7±1.6
Treatment	44.1±1.1	45.0±0.9	48.8±0.9
p-values	≤0.05	≤0.05	≤0.05

Table 2: The state and trait anxiety according to the STAI-scale

Groups	State anxiety	Trait anxiety
Control	22.1±1.3	43.7±1.4
Treatment	33.0±0.6	52.2±0.8
p-values	≤0.05	≤0.05

Table 3: Indicators of psychic state

Groups	Well-being	Activity	Mood
Treatment group 2 'before'	45.1±1.9	42.3±2.1	47.4±1.9
Treatment group 2 'after'	47.6±2.5	44.5±2.4	50.1±2.3
p-values	>0.05	>0.05	>0.05

Table 4: The state and trait anxiety according to the STAI-scale

Groups	State anxiety	Trait anxiety
Treatment group 2 'before'	33.0±1.7	52.4±1.4
Treatment group 2 'after'	32.2±2.3	52.9±2.3
p-values	>0.05	>0.05

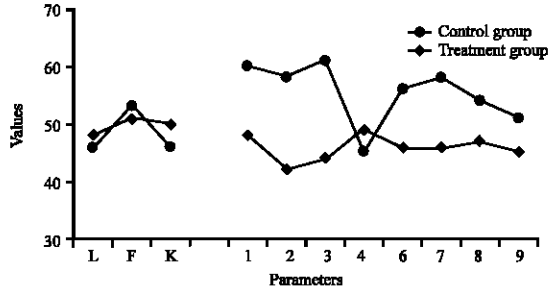

Fig. 1: The averaged profiles of personal characteristics (Mini-mult): L scale ('lie'), F scale ('reliability'), K scale ('correction'), 1: hypochondria scale; 2: depression scale; 3: hysteria scale; 4: psychopathy scale; 6: paranoiac scale; 7: psychastenia scale; 8: schizogony scale; 9: hypomania scale

As can be seen from Table 2, the figures of both the state and trait anxiety significantly differ in the control and treatment groups (r = 0.10; r = 0.26 at p = 0.05). One of the main features of the patients with thyroid carcinoma at the rehabilitation stage is the typical increased anxiety state, i.e., enhanced tending to feeling anxiety in different life situations including those the objective characteristics of which do not predispose to that.

The same significant differences are observed in all personal indicators of the Mini-mult test in the control and treatment groups (Fig. 1). The comparative analysis of the mean values of the treatment and control group of healthy persons with the patients with thyroid carcinoma with the use of the Student's and Fischer t-test has detected the significant differences by nearly all scales. In Fig. 1, the averaged profiles of the personal characteristics are presented. As can be seen from Fig. 1, the healthy test subjects demonstrate the average values of indicators falling within the range of 40-50 T-units (i.e., below the mean and the mean level of the scale).

Psychological rehabilitation: At the stage performance of the psychological training from the treatment group of patients with thyroid carcinoma the following groups have been allocated: the treatment group 11 from patients that completed the psychological training and have been

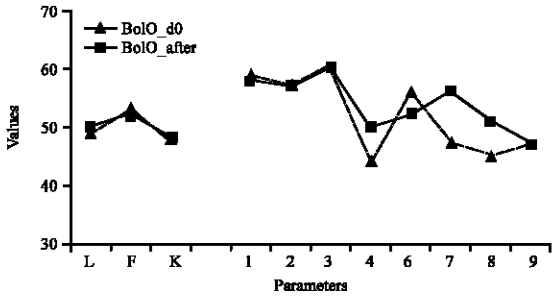

Fig. 2: The averaged profiles of personal characteristics (Mini-mult): L scale ('lie'), F scale ('reliability'), K scale ('correction'); 1: hypochondria scale; 2: depression scale; 3: hysteria scale; 4: psychopathy scale; 6: paranoiac scale; 7: psychastenia scale; 8: schizogony scale; 9: hypomania scale; Bol0_do: treatment group 2 of patients in the beginning; Bol0_after: treatment group 2 of patients at the end of the experiment

diagnosed twice: before the training and 2 months after it; the treatment group 2 from patients that were not exposed to psychological correction and were also tested twice together with the group 1. The groups formed were comparable in terms of the age, disease state and treatment features.

By comparing the results of investigation of the 'treatment group 2' of patients with thyroid carcinoma at the rehabilitation stage at the beginning of the experiment and 2 months after the following may be stated: the figures of well-being, activity, mood according to the CAH test do not differ significantly (p>0.05) (Table 3).

According to the STAI scale (Table 3 and 4), high figures of anxiety in the control group of patients with thyroid carcinoma 2 months after the psychological support remain unchanged (p>0.05).

Figure 2 of all scales of the Mini-Mult test in patients from the treatment group 2 'before' and 'after' do not differ significantly (p>0.05); however, certain visual differences are to be observed: the figures of scale of psychopathy (impulsivity), psychastenia (anxiety), schizogony (individualism) have been decreased which may be explained by the positive effect of the psychodiagnostics procedure itself, at the same time, the increase in T-units of the paranoid scale (rigidity) may be indicative of some resistance to this procedure.

Without psychological effect the figures of the scales, we placed special emphasis on as neurotic triad, i.e., hypochondria, depression and hysteria remain unchanged (p>0.05).

Table 5: Indicators of psychic state

Groups	Well-being	Activity	Mood
Treatment group 1 before training	44.3±2.4	47.6±1.6	50.2±1.6
Treatment group 1 after training	53.3±1.8	49.7±2.3	49.7±1.8
p-values	<0.05	>0.05	<0.05

Table 6: The state and trait anxiety according to the STAI-scale

Groups	State anxiety	Trait anxiety
Treatment group 1 before training	30.0±1.8	54.5±1.9
Treatment group 1 after training	29.6±2.5	52.6±1.7
p-values	>0.05	>0.05

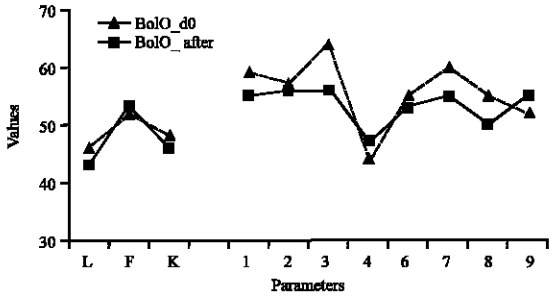

Fig. 3: The averaged profiles of personal characteristics (Mini-mult): L scale ('lie'), F scale ('reliability'), K scale ('correction'), 1: hypochondria scale'; 2: depression scale; 3: hysteria scale; 4: psychopathy scale; 6: paranoiac scale; 7: psychastenia scale; 8: schizogony scale; 9: hypomania scale; Bol_do: treatment group 1 of patients before the training; Bol_after: treatment group 1 of patients after the training

In the treatment group 1 of patients with thyroid carcinoma that completed the psychological training according to Table 5 the well-being and mood have significantly improved ($p<0.05$) (according to CAH).

The figures of the state and trait anxiety (Table 6) differ significantly. After the psychological training the figures on the state and trait anxiety were reduced. This means that the patients experience less anxiety in different life situations including those the objective characteristics of which do not predispose to that.

According to the results of the test Mini-Mult (Fig. 3) the figures of the following scales differ significantly: hypochondria or over-control, hysteria or lability ($p<0.05$). In the profile of patients, with thyroid carcinoma before the psychological training the highest are the T-units of the 3d scale of hysteria or emotional lability and the first scale of hypochondria or neurotic over-control. After the psychological impact, the profile of patients with thyroid carcinoma has changed. The T-units of the scale of (1) hypochondria, (3) hysteria, (7) psychastenia have been reduced. This means that after the training the patients became more emotionally stable, less sensitive to environmental impact, resistant to the stress loads.

The T-units of the scale of (9) hypomania or optimism and figures of the scale of (4) impulsivity have been increased which is indicative of the personal activity, prevalence of the achievement motivation, confidence by making decisions as compared to the treatment group 2.

Summary: The results of the long-term psychological diagnostics of patients with thyroid carcinoma after curative treatment show that despite the fact that the medical rehabilitation have been successfully completed these patients also need psychological support for improvement of quality of life and recovery to the normal working life.

CONCLUSION

The following states are typical for the sample of patients with thyroid carcinoma hypochondria (fighting against the disease is transformed into the fight for the right of being acknowledged as ill), hysteria (transformation of the neurotic anxiety into functional somatic disorders), psychastenia (decreased threshold of tolerance to stress, passive-suffering position), schizogony (social alienation, leaving for the world of dreams, state of confusion). The patients need to control the inner state; their impulsivity is hidden and focused on themselves.

We may state that the training showed the necessity of the long-term psychological rehabilitation for patients with thyroid carcinoma after the curative treatment (figures of the questionnaires CAH, scale STAI, Mini-Mult).

The patients react to an untoward condition both sthenically and hyposthenically, i.e., they demonstrate a 'hybrid' type of. This type of response is characterized by commitment to the commonly accepted norms and instructions, high-minded or quasi-moral style of living, tending to psychosomatic kind of disadaptation. Such profile is also characterized by suppression of spontaneity, inhibition of the active self-fulfillment, control over aggression, avoiding responsibility. In the behavior of a person of such kind fighting against the disease is unconsciously transformed into fighting for the right of being acknowledged ill. In response to an untoward condition violating the integrity of the 'I'-image the neurotic anxiety and egocentric trends are transformed in the patients into the functional somatic disorders. The increase in the profile by the seventh scale (psychastenia or anxiety) is indicative of the passive-suffering position, lack of self-confidence, motivation of failure avoidance, increased sensitivity to danger. The patients demonstrate the decreased threshold of tolerance to stress, tendency to doubting, excessive self-criticism, low self-esteem, at the same time ego-enhancing distortion.

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